

**Amendments to the Claims:**

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A processing device ~~(11) characterized by having~~  
comprising:

process means ~~(14, 50)~~ which has a chamber ~~(13)~~ and performs a  
predetermined process on a process target in said chamber ~~(13)~~;

first exhaust means ~~(22)~~ which is connected to said chamber ~~(13)~~ and  
~~pumps inside said chamber (13) to~~ creates a predetermined vacuum pressure in  
said chamber;

second exhaust means ~~(23)~~ which is connected to said first exhaust means  
~~(22)~~ and ~~pumps inside said chamber (13) to~~ creates a pressure in said chamber at  
which said first exhaust means ~~(22)~~ is operable;

information acquisition means ~~(24, 56, 61)~~ which is arranged between said  
first exhaust means ~~(22)~~ and said second exhaust means ~~(23)~~ and acquires  
information about a predetermined matter in an exhaust gas exhausted from  
said chamber ~~(13)~~; and

control means ~~(12)~~ which discriminates a status inside said chamber ~~(13)~~  
based on said information acquired by said information acquisition means ~~(24,~~

~~56, 61~~) and controls said process means.

2. (Currently amended) A processing device ~~characterized by having~~  
comprising:

a process section ~~(14, 50)~~ which has a chamber ~~(13)~~ and performs a  
predetermined process on a process target in said chamber ~~(13)~~;

a first exhaust section ~~(22)~~ which is connected to said chamber ~~(13)~~ via a  
first exhaust pipe ~~(25)~~ and ~~pumps inside said chamber (13) to creates a~~  
predetermined vacuum pressure in said chamber;

a second exhaust section ~~(23)~~ which is connected to an exhaust side of said  
first exhaust section ~~(22)~~ via a second exhaust pipe ~~(28)~~ smaller in diameter than  
said first exhaust pipe ~~(25)~~ and ~~pumps inside said chamber (13) to creates a~~  
pressure in said chamber at which said first exhaust section ~~(22)~~ is operable;

an information acquisition section ~~(24, 56, 61)~~ which acquires information  
about a predetermined matter in an exhaust gas exhausted from said chamber  
~~(13)~~ and flowing in said second exhaust pipe ~~(28)~~; and

a control section ~~(12)~~ which discriminates a status inside said chamber  
~~(13)~~ based on said information acquired by said information acquisition section  
~~(24, 56, 61)~~ and controls said process section ~~(14, 50)~~.

3. (Currently amended) The processing device according to claim 2,  
~~characterized by further having~~ comprising a measurement pipe ~~(30)~~ which is

branched from said second exhaust pipe (28) and bypasses said exhaust gas flowing in said second exhaust pipe (28) and in that said information acquisition section (24, 56, 61) acquires said information from said exhaust gas flowing in said measurement pipe (30).

4. (Currently amended) The processing device according to claim 2, ~~characterized in that~~ wherein said information acquisition section (24, 56, 61) has an infrared spectroscopic analysis device (24) or a mass spectrometry device (61) which measures a concentration of said predetermined matter and said control section (12) controls said process section (14, 50) based on the concentration of said predetermined matter measured by said information acquisition section (24, 56, 61).

5. (Currently amended) The processing device according to claim 2, ~~characterized in that~~ wherein said information acquisition section (24, 56, 61) has an infrared spectroscopic analysis device (24) which measures a distribution of a fragment matter in said exhaust gas and said control section (12) controls said process section (14, 50) based on the distribution of said fragment matter measured by said information acquisition section (24, 56, 61).

6. (Currently amended) A processing device ~~characterized by having~~ comprising:

a chamber (13);

gas supply means (14, 50) which is connected to said chamber (13) and supplies one process gas in a plurality of process gases into said chamber (13) for a predetermined time;

first exhaust means (22) which is connected to said chamber (13) and ~~pumps inside said chamber (13) to~~ creates a predetermined vacuum pressure in said chamber;

second exhaust means (23) which is connected to said first exhaust means (22) and ~~pumps inside said chamber (13) to~~ creates a pressure in said chamber at which said first exhaust means (22) is operable;

measuring means (24, 56, 61) which is arranged between said first exhaust means (22) and said second exhaust means (23) and measures an amount of said process gas in an exhaust gas exhausted from said chamber (13); and

control means (12) which controls supply of another process gas by said gas supply means (14, 50) based on the amount of said process gas measured by said measuring means (24, 56, 61).

7. (Currently amended) The processing device according to claim 6, ~~characterized in that~~ wherein said control means (12) starts supplying another process gas into said chamber (13) by said gas supply means (14, 50) when the amount of said process gas in said exhaust gas is reduced to a predetermined

amount.

8. (Currently amended) A processing device ~~characterized by having~~  
comprising:

a chamber ~~(13)~~ in which a predetermined process is performed on a  
process target;

cleaning means ~~(50)~~ which cleans inside said chamber by supplying a  
cleaning gas for purifying inside said chamber ~~(13)~~;

first exhaust means ~~(22)~~ which is connected to said chamber ~~(13)~~ and  
~~pumps inside said chamber (13) to~~ creates a predetermined vacuum pressure in  
said chamber;

second exhaust means ~~(23)~~ which is connected to said first exhaust means  
~~(22)~~ and ~~pumps inside said chamber (13) to~~ creates a pressure in said chamber at  
which said first exhaust means ~~(22)~~ is operable;

information acquisition means ~~(24, 56, 61)~~ which is arranged between said  
first exhaust means ~~(22)~~ and said second exhaust means ~~(23)~~ and acquires  
information about a pollutant in an exhaust gas exhausted from said chamber  
~~(13)~~; and

control means ~~(12)~~ which discriminates a pollution status inside said  
chamber ~~(13)~~ based on said information acquired by said information acquisition  
means ~~(24, 56, 61)~~ and controls said cleaning means ~~(50)~~.

9. (Currently amended) The process system according to claim 6, ~~characterized in that~~ wherein said pollutant is particles and said control means ~~(12)~~ cleans inside said chamber ~~(13)~~ when an amount of said particles in said exhaust gas becomes equal to or greater than a predetermined amount.

10. (Currently amended) The process system according to claim 9, ~~characterized in that~~ wherein said information acquisition means ~~(24, 56, 61)~~ has an optical counter ~~(56)~~ which measures the amount of particles in said exhaust gas.

11. (Currently amended) The process system according to claim 6 or 9, ~~characterized in that~~ wherein said information acquisition means ~~(24, 56, 61)~~ further has byproduct measuring means ~~(24, 61)~~ which measures an amount of a byproduct produced by said cleaning in said exhaust gas, and  
said control means ~~(12)~~ controls said cleaning means ~~(50)~~ based on the amount of said byproduct measured by said byproduct measuring means ~~(24, 61)~~.

12. (Currently amended) The process system according to claim 6, ~~characterized in that~~ wherein said information acquisition means ~~(24, 56, 61)~~ has a mass spectrometry device ~~(61)~~ which measures a type and an amount of a metal element in said exhaust gas, and said control means ~~(12)~~ controls said cleaning means ~~(50)~~ based on the type and amount of the metal element

measured by said information acquisition means (~~24, 56, 61~~).

13. (Currently amended) A ~~process~~ method comprising having:  
~~a process step which performs~~ performing a predetermined process in a chamber retaining a process target inside,  
~~a first exhaust step which causes~~ causing a main exhaust section connected to said chamber to ~~pump inside said chamber to create~~ a predetermined vacuum pressure in said chamber, and  
~~a second exhaust step which causes~~ causing a sub exhaust section connected to said main exhaust section to ~~pump inside said chamber to create~~ a pressure in said chamber at which ~~pumping in said first exhaust step causing the main exhaust section to create a predetermined vacuum pressure~~ is possible, ~~characterized by having~~:  
~~an information acquisition step which acquires~~ acquiring information about a predetermined matter in an exhaust gas exhausted from said chamber in said first exhaust step and flowing between said main exhaust section and said sub exhaust section; and  
~~a control step which discriminates~~ discriminating a status inside said chamber and ~~controls~~ controlling said process based on said information acquired in said information acquisition step.

14. (Currently amended) A ~~process~~ method comprising having:

~~a process step which performs~~ performing a predetermined process in a chamber retaining a process target inside,

~~a first exhaust step which causes~~ causing a main exhaust section connected via a first exhaust pipe to said chamber to ~~pump inside said chamber~~ to create a predetermined vacuum pressure in said chamber, ~~characterized by~~ having:

~~a second exhaust step which causes~~ causing a sub exhaust section connected to said main exhaust section via a second exhaust pipe smaller in diameter than said first exhaust pipe to ~~pump inside said chamber to~~ create a pressure in said chamber at which ~~pumping in said first exhaust step~~ causing the main exhaust section to create a predetermined vacuum pressure is possible;

~~an information acquisition step which acquires~~ acquiring information about a predetermined matter in an exhaust gas exhausted from said chamber in said first exhaust step and flowing in said second exhaust pipe; and

~~a control step which discriminates~~ discriminating a status inside said chamber and ~~controls~~ controlling said process based on said information acquired in said information acquisition step.

creating a pressure in said exhaust chamber

15. (Currently amended) The ~~process~~ method according to claim 14, ~~characterized in that wherein~~ in said second exhaust step, ~~inside said chamber~~ is ~~pumped out~~ the pressure in said exhaust chamber is created by the sub exhaust section connected to said main exhaust section via said second exhaust



pipe and a measurement pipe for bypassing a gas flowing in said second exhaust pipe, and

in said information acquisition step, said information is acquired from said exhaust gas flowing in said measurement pipe.

16. (Currently amended) The process method according to claim 14, ~~characterized in that~~ wherein in said information acquisition step, a concentration of said predetermined matter is measured by an infrared spectroscopic analysis device or a mass spectrometry device and in said control step, said process is controlled based on said concentration measured in said information acquisition step.

17. (Currently amended) A ~~process method~~ comprising ~~characterized by~~ having:

~~a gas supply step which supplies~~ supplying one process gas in a plurality of process gases into a chamber retaining a process target inside for a predetermined time;

~~a first exhaust step which causes~~ causing a main exhaust section connected to said chamber to ~~pump inside said chamber to~~ create a predetermined vacuum pressure in said chamber;

~~a second exhaust step which causes~~ causing a sub exhaust section connected to said main exhaust section to ~~pump inside said chamber to~~ create a

pressure in said chamber at which pumping in said first exhaust step is possible;

~~a measuring step which measures~~ measuring an amount of said process gas in an exhaust gas exhausted from said chamber in said first exhaust step and flowing between said main exhaust section and said sub exhaust section; and

~~a control step which controls~~ controlling supply of another process gas in said gas supply step based on the amount of said process gas measured in said measuring step.

18. (Currently amended) A ~~process method~~ comprising ~~characterized by~~ having:

~~a process step which performs~~ performing a predetermined process in a chamber retaining a process target inside;

~~a cleaning step which cleans~~ cleaning inside said chamber by supplying a cleaning gas for purifying inside said chamber;

~~a first exhaust step which causes~~ causing a main exhaust section connected to said chamber to ~~pump inside said chamber to~~ create a predetermined vacuum pressure in said chamber, and

~~a second exhaust step which causes~~ causing a sub exhaust section connected to said main exhaust section to ~~pump inside said chamber to~~ create a pressure at which pumping in said first exhaust step is possible;

~~an information acquisition step which acquires~~ acquiring information about a pollutant in an exhaust gas exhausted from said chamber in said first exhaust step and flowing between exhaust gas exhausted from said chamber in said first exhaust step and flowing between said main exhaust section and said sub exhaust section; and

~~a control step which discriminates~~ discriminating a pollution status inside said chamber and ~~controls~~ controlling cleaning in said chamber in said cleaning step based on said information acquired in said information acquisition step.

19. (New) The processing device according to claim 1, 6, or 8, wherein said first exhaust means is a turbo molecular pump and said second exhaust means is a dry pump.

20. (New) The processing device according to claim 2, wherein said first exhaust section is a turbo molecular pump and said second exhaust section is a dry pump.

21. (New) The method according to claim 13, 14, 17, or 18, wherein said first exhaust section is a turbo molecular pump and said second exhaust section is a dry pump.